

What is claimed is:

1. A wire tensioning mechanism for tensioning a wire having an end one and an end two, in a machine, wherein said wire is fixed to the machine at end one and has a means for attachment on end two, comprising:

5 a slide block which is slidably mounted to the machine at the wire end two such that said slide block slides parallel to the wire, having a slot which is wider than the wire but narrower than the means for attachment such that when said slide block is mounted on the machine, the wire end two can be slid into said slot such that pulling said slide block in the direction away from the wire forces the  
10 means for attachment against the slot, but does not allow the means for attachment to pass through, and wherein said slot is lined up with the wire such that when the wire is in tension, there are no side loads on the means for attachment; and

15 a spring which is mounted between the machine and said slide block such that said spring exerts a force on said slide block in the opposite direction of the force which the tensioned wire exerts on said slide block, such that the force of said spring can cause said slide block to slide, and wherein said spring is chosen such that the force exerted on said slide block causes the wire to achieve the desired tension.

20 2. The wire tensioning mechanism of claim 1 wherein said means for attachment is a lug which has been crimped on the wire.

3. The wire tensioning mechanism of claim 1 further comprising a slide pin which is mounted to the machine, wherein said slide block is slidably mounted to the machine on said slide pin.

25 4. The wire tensioning mechanism of claim 1 further comprising a holder, wherein said holder is mounted to the machine, and said slide block is slidably mounted to said holder.

5. The wire tensioning mechanism of claim 1 further comprising a holder wherein said holder is mounted to the machine, and said slide block is slidably  
30 mounted to said holder, and said spring is mounted between said slide block and said holder.

6. The wire tensioning mechanism of claim 1 further comprising:  
a holder, wherein said holder is mounted to the machine; and,  
a slide pin which is mounted to said holder, and wherein said slide block is  
slidably mounted to said holder on said slide pin.

5 7. The wire tensioning mechanism of claim 1 wherein said slide block is v-  
shaped, and wherein said v-shaped slide block comprises a leg one and a leg  
two wherein said slide block leg one is slidably mounted to the machine, and  
wherein said leg two is on the same side of said leg one as the wire such that  
said leg two angles away from the wire, wherein said slot is in said leg two.

10 8. The wire tensioning mechanism of claim 1 wherein said spring is a  
compression spring.

9. In a corona wire tensioning device for electrophotography, the wire having  
opposing ends end one and end two, and having a lug crimped on end one and  
end two as a means for attachment to the wires, wherein end one of the wire is  
15 secured against movement, and the end two of the wire is laid in a groove on the  
electrophotographic machine to align the wire to the desired position, and spring  
loaded to the appropriate tension, the improvement comprising:

a holder which is mounted to the machine at the position of the grooves;

a slide pin which is mounted to said holder such that it is parallel to the wire;

20 a v-shaped slide block comprising a leg one and a leg two wherein said slide  
block leg one is slidably mounted to said holder on said slide pin such that said  
slide block leg one is free to slide on said slide pin in the direction parallel to the  
wire, and such that said leg one is parallel to said slide pin, and wherein said leg  
two is on the same side of said holder as the wire such that said leg two angles  
25 away from the wire, wherein said leg two has a slot which is wider than the wire  
but narrower than the lug such that when said slide block is mounted on said  
holder, the wire end two having the lug crimped on can be slid into said slot such  
that pulling on the wire in the direction away from said slide block forces the lug  
into the back of said slot, but does not allow the lug to pass through, and wherein  
30 said slot is slightly offset from the groove such that when the wire is in tension,  
the wire is registered against the groove; and,



a spring having an end one and an end two, wherein said spring is mounted between said holder and said slide block such that said spring exerts a force on said slide block in the opposite direction of the force which the tensioned wire exerts on said slide block, such that the force of said spring can cause said slide  
5 block to slide along said slide pin, and wherein said spring is chosen such that the force exerted on said slide block causes the wire to achieve the desired tension.

10. In the corona wire tensioning device for electrophotography of claim 9 wherein said spring is a compression spring.

10 11. A corona wire configuration with a tensioning mechanism for an electrophotographic machine comprising:

a single continuous wire having an end one and an end two, wherein end one is secured against movement and end two has a lug crimped on, and wherein said wire is strung in such a way as to create multiple segments;  
15 restraining devices which are mounted to the machine such that the necessary bends in said wire are achieved by wrapping said wire around said restraining devices;

a final restraining device, such that end two is wrapped around said final restraining device such that it makes approximately a 90° angle with the rest of  
20 said wire;

a slide block which is slidably mounted to the machine such that said slide block slides towards said final restraining device, having a slot which is wider than the wire but narrower than the means for attachment such that when said slide block is mounted on said holder, the wire end having the means for  
25 attachment crimped on can be slid into said slot such that pulling on the wire in the direction away from the slide block forces the means for attachment into the back of the slot, but does not allow the means for attachment to pass through, and wherein said slot is lined up with the wire such that when the wire is in tension, there are no side loads on the means for attachment; and

30 a spring having an end one and an end two, wherein said spring is mounted between the machine and said slide block such that said spring exerts a force on

said slide block in the opposite direction of the force which the tensioned wire exerts on said slide block, such that the force of said spring can cause said slide block to slide, and wherein said spring is chosen such that the force exerted on said slide block causes the wire to achieve the desired tension.

5 12. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein said restraining devices are pins.

10 13. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein said restraining devices are pulleys.

14. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein said restraining devices are posts.

15 15. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein said restraining devices are grooves.

16. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein said means for attachment is a lug which has been crimped on the wire.

20 17. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11 wherein said slide block is slidably mounted on a slide pin, which is mounted to the machine.

25 18. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein a holder is mounted to the machine, and said slide block is slidably mounted to said holder.

19. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein a holder is mounted to the machine, and said slide block is slidably mounted to said holder, and said spring is mounted between said slide block and said holder.

30 20. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein a holder is mounted to the

machine, and said slide block is slidably mounted on a slide pin which is mounted to said holder.

21. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein said slide block is v-shaped, and wherein said v-shaped slide block comprises a leg one and a leg two wherein said slide block leg one is slidably mounted to the machine such that said slide block leg one is free to slide in the direction parallel to the wire, and wherein said leg two is on the same side of said leg one as the wire such that said leg two angles away from the wire, wherein said slot is in said leg two.

22. The corona wire configuration with a tensioning mechanism for the electrophotographic machine of claim 11, wherein the spring is a compression spring.

15  
20